

PATENT APPLICATION

SYSTEM FOR CONSUMER-TRANSACTION INFORMATION THAT FOLLOWS
THE CONSUMER

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This application claims the benefit of the filing date(s) of the following earlier application(s):

U.S. Patent Application No. 60/137,575, entitled, "A Web-
10 Enabled Point-of-Sale Device," filed June 4, 1999, naming Scott T. Allan, Timothy L. Droz, Alexander F. Fraikor, Jeffrey T. Miles and J. G. Stout as inventors, with Attorney Docket No. P-68133/TOH/LM, and commonly assigned to @POS.COM of San Jose, California (formerly PenWare, Inc. of Sunnyvale, California); and

15 U.S. Patent Application No. 60/141,380, entitled, "An Electronic-Receipts Service," filed June 28, 1999, naming Llavanya Fernando and Aziz Valliani as joint inventors, with Attorney Docket No. P-68207/TOH/LM, and commonly assigned to @POS.COM of San Jose, California.

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This application is a continuation-in-part of:

U.S. Patent Application No. 09/480,883, entitled, "An
Electronic-Receipts Service," filed January 10, 2000, naming Scott T. Allan et al. as inventors, with Attorney Docket No. A-65188-1/MAK/LM, and
25 commonly assigned to RECEIPTCITY.COM, INC., San Jose, California, itself a continuation-in-part of U.S. Patent Application No. 08/957,757, entitled, "Method and System for Automated Electronic Receipt of Transactions," filed October 24, 1997, naming Aziz Valliani, et al. as inventors, with Attorney Docket No. A-65188/MAK/LM, and commonly assigned
30 to RECEIPTCITY.COM, INC., San Jose, California, itself a continuation in

part of U.S. Patent No. 08/853,955, entitled, "Modular Signature and Data-Capture System and Point of Transaction Payment and Reward System," filed May 9, 1997, naming Aziz Valliani, et al. as inventors, with Attorney Docket No. A-63562/MAK, and assigned to @POS.COM, INC. of San Jose, California.

Benefit U.S. Patent Applications No. 60/137,575, 60/141,380 and 09/480,883 are incorporated by reference herein.

BACKGROUND

This invention relates to electronic commerce. More specifically, this invention relates to tracking consumers along the sequence of point-of-sale platforms that they visit and having information generated from their activity at one POS platform accompany them to other POS platforms.

Nichtberger et al., U.S. Patent Re-Issue No. 34,915 (1995), teaches a system for distributing, redeeming and clearing merchandise coupons. FIG. 1 illustrates a system including an operations center 8 cooperating with local stations 10. Each of the local stations 10 is located at, say, a supermarket where coupons are to be distributed and redeemed. The operations center 8 typically is centrally located with a view toward ease of communication between it and each of the local stations 10.

The operations center 8 contains a data-entry system 12, an image-capture system 14 and a central processing unit 16. The image-capture system 14 enables video images of the coupons to be presented at the separate stores.

Each of the local stations 10 includes an automated UPC scanning checkout system 18 and a local coupon distribution and redemption (CDR) unit 20. After the customer inserts a special card into the unit, the local CDR unit 20 presents an electronic display to the customer of the coupons which are available for redemption. The customer

then selects the coupons which he or she wishes to redeem. The CDR unit 20 records the selection and makes information identifying the customer and the selected coupons available to each of the checkout stations which comprise the checkout system 18 of the supermarket.

5 At Fig. 4, Nichtberger describes a method for coupon selection (distribution) and redemption. Customers using a CDR unit 20 are initially presented with advertisements. Normally, the advertisements run until a special card is inserted into a card reader.

10 Immediately after recognizing the special card, the card reader checks the card to determine when the user previously accessed coupons in that type of retail outlet. Thereafter, the possibilities are several. If the card indicates that the user accessed the system in that type of retail outlet during some predetermined time period, a screen appears explaining that the card is not valid in that type of store for 15 the remainder of the time period. If the user's last access to the coupons in that type of retail outlet was not during the most recent week, the customer proceeds to select coupons.

20 A screen is filled with coupons. The user has a predetermined time to choose coupons or to touch the "hold" or "next" space before a next screen filled with coupons is displayed. If a coupon is chosen, that choice is noted under the user account number.

25 After the last screen, a notation to the effect that the special card was used (including the period of such use) is recorded on the card. The customer's coupon selections are entered in a file. Coupon-selection information is reported via a communications link to the local processor which controls the store's automated checkout (UPC code scanning) system. This facilitates a subsequent comparison of coupons selected to purchases made.

30 After the user has made his purchases, he goes to one of the checkout stations and presents his card to the attendant at the station. A card reader reads the card, and the checkout system 18 then automatically credits the customer for the coupons the customer has

selected where there are corresponding purchases against which the coupons are to be applied.

Thereafter, information regarding the redeemed coupons is transmitted to the central processing unit 16 which then automatically debits the manufacturer who distributed the coupons and credits the supermarket corresponding to the local station 10 at which the coupon was redeemed.

The Nichtberger system, however, is limited in several respects. For example, the Nichtberger local stations 10 include both a CDR 20 and a scanning checkout system 18, indicating their placement at checkout lanes. This placement, however, requires that some checkout-lane space and availability be sacrificed to permit shoppers to make pre-shopping coupon selections in the checkout-lane space. Retailers are loathe to reduce the throughput of their registers -- for fear of frustrating and ultimately alienating customers.

Further, the operating center 8 communicates with multiple local stations 10. These local stations are located within one retailer only.

Finally, Nichtberger requires that any redemption of coupons occurs at a location having a CDR unit 20. The CDR unit 20 allows a customer to identify himself to the local station 10. POS platforms that do not include the equipment for processing the special coupon cards cannot enjoy the benefits of the Nichtberger system.

It is desirable, therefore, to better use the limited, valuable space in checkout lanes by not selecting coupons at the POS platform (except under certain circumstances --- the consumer is making coupon selections while checking out, for example).

It is further desirable to carry the coupon-selection information as well as other information from the coupon-selection device to whatever POS platform the consumer visits. Different consumer platforms may be in different retailers.

Finally, it is desirable to eliminate the need for specific

CDR units.

These and other goals of the invention will be readily apparent to one of skill in the art on reading the background above and
5 the description below.

SUMMARY

Herein are described apparatus and methods for storing and retrieving consumer-transaction information. The method includes
10 capturing transaction information regarding a consumer at a first merchant, storing the captured selection information on a server and applying that captured transaction information to a transaction involving the consumer at a second merchant. Before applying the captured transaction information, the consumer is identified in a transaction at
15 the second merchant.

The first and second merchants and the server may be communicatively coupled by means of an internet – perhaps even the Internet. The type of transaction information captured may include credit information or loyalty information.

20 The second transaction may be initiated by a browser on a personal computer connected to the Internet.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a diagram illustrating an electronic transaction
25 system incorporating one embodiment of the invention.

Figure 2 illustrates the data farm, incorporating an embodiment of the invention.

DESCRIPTION OF SPECIFIC EMBODIMENTS

Figure 1 is a diagram illustrating an electronic transaction system 100 incorporating one embodiment of the invention. The system 100 includes one or more merchants 120, a central data farm 140 and a personal computer 190. The system 100 also includes communications link 180.

Where the link 180 is an internet, the merchant(s) 120 and the data farm 140 are each communicatively connected as hosts on that internet 180. The internet 180 allows any one host to communicate with any other. The personal computer 190 is viewed as a host on the internet 180, although its actual status is more likely to depend on the directness of its connection to that internet 180 - through optional service providers not shown, for example.

A merchant 120 may include a merchant data center 127 and one or more point-of-sale (POS) systems 126. A POS system 126 and the merchant data center 127 communicate over a communications link 128 (typically a serial link) or a communications link 122. In addition to communicating using the link(s) 128, 122, the POS system 126 is communicatively connected as a host on the internet 180, allowing communication with any other host on the internet 180.

In one embodiment, the POS system 126 includes a portion 1262 that is typically a non-web-enabled cash register (although the portion 1262 may be web-enabled). An optionally web-enabled portion 1261 is herein termed the "transaction computer." A communications link 1263 may communicatively couple the portions 1261, 1262. The web-enabled transaction computer 1261 connects the POS system 126 to the internet 180.

The POS system 126 may integrate the typically non-web-enabled ("cash-register") and web-enabled portions 1262, 1261 of the POS payment platform, may maintain them distinct from but directly connected to each other or may only associate the non-web-enabled and web-enabled

portions 1262, 1261 of the POS platform (i.e., indirectly connect the cash-register and interactive web-enabled portions 1262, 1261 of the payment platform.) Alternatively, the POS system 126 may omit the non-web-enabled portion 1262 of the POS platform altogether, as would typically be the case with small merchants 120.

The web-enabled transaction computer 1261 is of a type known in the art. The iPOS TC (available from @POS.COM, San Jose, California) is an example of an web-enabled TC 1261.

An alternative embodiment of the POS system 126 is as a web server where consumers can purchase products.

A walk-through of a typical transaction illustrates the system 100 in situ: A customer of a merchant 120a enters the merchant 120a's POS location or web site having the POS system 126. The customer wishes to purchase a selection of the merchant 120a's goods.

The customer presents to the merchant 120a's sales agent the selected goods. The sales agent identifies each of the selected items - by scanning each past a bar-code scanner (not shown) in the POS system 126, for example. (The currently popular form of marking items for subsequent scanning for purchase is by Uniform Product Code (UPC). The use of UPC is well known in the art and is, therefore, not described herein.) Say, the customer is buying an MP3 player, inter alia.

At some point at the beginning, during or at the end of the transaction, the POS platform 126, the merchant data center 127 and the data farm 140 individually or in concert identify the customer. The customer may, for example, present a credit, debit, loyalty or like card that explicitly and uniquely identifies him to the data farm 140. The system may, for example, identify the consumer by a user name and password, by account number and PIN (personal identification number), or by other combinations of identifier and surety. The system may use a set of heuristics to identify the customer from multiple incomplete but overlapping identifiers (zip code and numbers in street address, for example) that successively exclude candidates from a database of

candidates. The system 126, 127 or 140 may, for example, biometrically identify the consumer.

While the items are being identified, the POS system 126 communicates with the merchant data center 127, the data farm 140 or an application service provider 1A0. The result of the communications is that the customer is presented with content that the merchant data center 127, the data center 140 or the ASP 1A0 determines is appropriate for the customer. For example, the customer may see an instantly redeemable coupon for the MP3 player that he is currently purchasing. He may see a coupon for the type of batteries that power the portable stereo he is purchasing. He may see a survey from the merchant 120a regarding service at the merchant 120a's store (or web site) or from a manufacturer regarding consumer electronics. He may see an interactive advertisement.

Each transmitted content encourages the customer to attend to and, as appropriate, to indicate consent to its proposition. For the case of the instantly redeemable coupon, the content encourages the customer to select the coupon by touching an area of the screen of the POS system 126 or clicking on an area of a web page, for example.

A response to a content may be communicated to the data farm 140. The lack of a response, which is of itself useful information, may or may not be explicitly communicated to the data farm 140. Additionally or alternatively, the interactive portion 1261 may be so responsive.

Let's say that the customer sees a discount coupon for 15% off his next purchase of a specific battery brand. The customer indicates his consent to this proposition, which consent the POS platform 126 communicates to the data farm 140.

The data farm 140 associates the customer with a representation of the discount coupon. The representation of the coupon includes all the restrictions of the coupon to apply to a subsequent transaction – the type of item (batteries), the brand of the item (Ray-o-Bunny), a UPC code, expiration date, limitation on quantity, etc. Typically, the coupon restrictions do not identify the merchant 120a.

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The transaction eventually concludes. At some later date, the customer goes to another merchant 120b not associated with the original merchant 120a. There he buys a pack of batteries, to which the discount coupon is applicable. The POS platform 126b (again, perhaps with the help of a merchant data center 127 or the data farm 140) identifies the customer.

In communications, the data farm 140 and the POS platform 126b recognize that the identified consumer has a coupon credit applicable to the transaction at the POS system 126b. (The data farm 140 or the merchant 120 may verify the current validity of the credit.) Accordingly, the POS platform 126 credits the consumer the 15% discount for the coupon selected previously at the POS platform 126a of the merchant 120a.

The data farm 140 and merchant 120b again communicate to update the data farm's records. The update indicates that the consumer no longer has the discount (credit) available.

Figure 2 illustrates the computer system 140, incorporating an embodiment of the invention. The development host 140 may include the following: a central processing unit ("CPU") 141, a memory 142, a user interface 143, a port 144, a communications interface 145, a co-processor 146 and an internal bus 147. The bus 147 communicatively interconnects the CPU 141, memory 142, user interface 143, port 144, communications interface 145 and co-processor 146. (Of course, in a distributed computing environment, some of these components may be on separate physical machines, as is well understood in the art of distributed computing.)

The memory 142 includes high-speed, volatile random-access memory (RAM) 1422, as well as non-volatile memory such as read-only memory (ROM) 1421 and magnetic disk drives. Further, the memory 142 contains software 1423. The software 1423 is layered: Application software 14231 communicates with the operating system 14232, and the operating system 14232 communicates with the I/O subsystem 14233. The

I/O subsystem 14233 communicates with the CPU 141, user interface 143, the communications interface 145 and the co-processor 146 by means of the communications bus 147.

5 The memory 142 may be programmed according to the methods described herein.

Indeed, the invention now being fully described, one of ordinary skill in the art will readily recognize many changes and modifications that can be made thereto without departing from the spirit or scope of the appended claims. For example, the content to which the consumer may indicate consent is not limited to coupons but includes the array of offers (promotions) known in the advertising art in whatever form. As another example, the merchant 120b, not necessarily associated with the original merchant 120a, may even compete with the merchant 120a. As still another example, the second merchant 120b may be an e-tailer 120 that the consumer accesses from his personal computer 190. The type of information generated at one transaction that follows a consumer to another transaction (perhaps at another merchant 120) may be credit, loyalty or other consumer-transaction type information.

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This specification incorporates by reference all publications and patent applications mentioned herein, to the same extent if the specification had specifically and individually incorporated by reference each such individual publication or patent application.

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